(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 28 October 2004 (28.10.2004)

PCT

(10) International Publication Number WO 2004/092482 A1

(51) International Patent Classification7: 21/28

D21H 17/69.

(21) International Application Number:

PCT/FI2004/000229

(22) International Filing Date: 14 April 2004 (14.04.2004)

(25) Filing Language:

Finnish

(26) Publication Language:

English

 \mathbf{FI}

(30) Priority Data: 20030568

15 April 2003 (15.04.2003)

(71) Applicant (for all designated States except US): KEMIRA OYJ [FI/FI]; Porkkalankatu 3, FI-00180 Helsinki (FI).

(72) Inventors; and

- (75) Inventors/Applicants (for US only): AHLGREN, Jonni [FI/FI]; Karitie 11 F 45, FI-65230 Vaasa (FI). STREN-GELL, Kimmo [FI/FI]; Kellosepänkatu 13 as. FI-65100 Vaasa (FI).
- (74) Agent: BERGGREN OY AB; Jaakonkatu 3 A, P.O. Box 16, FI-00101 Helsinki (FI).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PROCESS FOR MANUFACTURING OF PAPER

(57) Abstract: The invention relates to a process for manufacturing paper, in which a filler is pretreated and suspended to form an aqueous slurry, the aqueous slurry obtained is combined with an aqueous suspension containing cellulose fibres to form a stock, the stock obtained is treated at least with a cationic retention agent and the treated stock is filtered to form paper. Retention and optical properties are improved by the filler being pre-treated with inorganic colloidal particles having an average size less than 100nm.